

genera and species by synoptic tables, supplemented by individual descriptions of each species, with references throughout to the most recent literature and with numerous figures. The volume closes with a glossary and index, the new species being separately indexed on the last page.

The work is largely a compilation from previous publications, but much original work has been required to prepare synopses where none previously existed, and in the comparison of Indiana specimens with the descriptions. It has been a long sustained effort to bring so large a work to a successful conclusion and Mr. Blatchley is to be congratulated on its completion. As a whole, the work seems, after a few weeks use, to be remarkably well done. The number of new species is a little surprising and especially the number described in obscure genera like *Atheta*, *Cis*, *Brachynus* and *Melanotus*. In addition to the new names given in the index, *Anisodactylus sayi* is proposed on p. 198 for *picus* Lee preoccupied.

The Rhyncophora are not included at all and only species known (2,855) or supposed (700) to occur in Indiana are mentioned. With these limitations the book Mr. Blatchley has prepared will fill a long felt want for all students in the eastern part of the United States who can at last find in one volume nearly all they need for the determination of their beetle captures. For late comers it is to be regretted that the first edition is already exhausted. This, however, indicates the appreciative reception the book has found.

PROCEEDINGS OF THE NEW YORK ENTOMOLOGICAL SOCIETY.

MEETING OF TUESDAY, MARCH 1, 1910.

Held at the American Museum of Natural History at 8.15 p. m. President C. W. Leng in the chair with twenty-three members and one visitor in attendance.

In the absence of the recording secretary, Mr. C. L. Pollard was elected secretary *pro tem*.

The librarian, Mr. Schaeffer, reported the receipt of the following publications:

Zool. Record, XLV, 1908, Insects.

Coleopterorum Catalogus, Pt. 8.

Zeitschr. f. Wissenschaftl. Insekt. Biol., VI, No. 1.

Berliner Entomol. Zeitschrift, LIV, nos. 3 and 4.

The committee appointed to investigate the purchase of additional book cases reported through its chairman, Mr. Davis, that the Globe-Wernicke Co. would furnish six additional sections, including tops, for \$33, and would make an allowance of about \$2.25 for the return of bottom sections not required by the Society. On motion it was voted that the committee be authorized to make the purchase on these terms.

Dr. Raymond Osburn reported the receipt, for photograph collection, of pictures of Dr. L. Kraatz, Mr. Otto Lugger and Dr. Hugo Soltau and requested further contributions.

Mr. R. P. Dow moved that the regular meeting of April be made a joint meeting with the Brooklyn Entomological Society, and that the members of the latter be duly invited to attend. Motion was carried.

Mr. John D. Sherman addressed the society on the subject "Beetles from Labrador." He referred especially to the three general works on Labrador, viz., "The Labrador Coast," by A. S. Packard; "Along the Labrador Coast," by Charles W. Townsend, and "A Report on the Brown-Harvard Expedition to Labrador in the Year 1900," by E. B. Delabarre, and stated that Packard's list was the only enumeration of Labrador beetles. Mr. Sherman had received nearly 10,000 specimens, representing about 100 species, from various collectors, portions of whose letters were read. A number of specimens were exhibited and commented upon, among them being *Elaphrus obliteratus*, *Trechus rubens*, *Pterostichus punctatissimus*, *Amara glacialis*, *Harpalus fulvilabris*, *Halophus cribrarius*, *Dytiscus parvulus*, *D. doricus*, *Latridius minutus*, *Stenotrachelus arcuatus* and *Mordella borealis*, many of these representing additions to Packard's list. He referred to *Agabus arcticus* as peculiar to Labrador, and mentioned the receipt of an undescribed species of this genus. *Aphodius guttatus* was the only Scarabæid in the collection, but by way of contrast three of the four known North American species of *Paronomus*, a genus of Elateridæ, had been received.

Mr. Thomas Hallinan spoke on "The Morphos and Caligos of the Panamian Isthmus." He described the geography and topography of the region with the aid of a map. It is a country of intense humidity and of very great variation in the extent of rainfall, the two coasts differing in this and other respects. He exhibited several species of *Morpho* and *Caligo*, and commented on their habits, stating that the Morphos fly chiefly in the open, sunny clearings during the morning hours, and are difficult to catch except when flying against the wind; while the Caligos fly in the denser and darker parts of the jungle, where they are protected by the thorny vegetation.

Mr. Charles Schaeffer spoke on "Distinguishing Characters in the Histeridæ." He stated that the number and position of the thoracic striæ afforded the best characters, while the shape of the mesosternum, whether truncate or emarginate, the outline of the front tibiæ, the thoracic hairs and the two pygidia were also important.

Mr. Schaeffer also exhibited and discussed a specimen of *Pterostichus lachrymosus* having a peculiar malformation of the thorax.

Dr. E. B. Southwick exhibited specimens of an orchid, the pseudobulbs of which were infested with a small South American hymenopterous insect, *Iso-soma orchidarum*, a well-known pest of greenhouse orchids both in this country and abroad.

Mr. W. T. Davis exhibited a fly *Spilomyia quadrifasciata* taken by himself on Staten Island some years ago.

C. L. POLLARD,

Secretary pro tem.

MEETING OF TUESDAY, MARCH 15, 1910.

Held at the American Museum of Natural History. President C. W. Leng in the chair with eighteen members and one visitor in attendance.

The librarian, Mr. Schaeffer, reported the receipt of the following exchanges:

Wiener Entomol. Zeitung, XXIX, Nos. 2, 3.

Verhandlungen d. K. K. Zool. Bot. Gesellschaft, Wien, LIX, Nos. 7, 8.

Some Bees of the Genus *Augochlora* from the West Indies, T. D. A. Cockerell.

Zeitschrift f. Wissenschaftliche Insekten-biologie, VI, No. 2.

Insects Injurious to Sweet Potatoes in New Jersey, J. B. Smith.

Bull. de la Soc. Entomol. d'Egypt, 1909, No. 3.

Canadian Entomologist, XLII, No. 3.

Coleopterum Catalogus, Part 9 and 10.

Through the president the curator reported that the preliminary arrangement of the Diptera was partially completed and cabinets to contain these and the Hymenoptera had been ordered.

Mr. L. H. Joutel under the title of "A Scarabæid new to Long Island," stated that among a catch of Long Island beetles made by Mr. Engelhardt there were two specimens of *Trichius texanus* Horn. one of which he exhibited with a male of *T. piger*. He pointed out the differences in the males of the two species and called particular attention to the great difference in the front tibia. In *texana* it is very broad, while in *piger* it is quite narrow. He also referred to the differences in the punctures of the thorax of the two species.

Dr. J. L. Zabriskie with the aid of lantern slides spoke on the "Microscopical Examination of some Structures of the beetle *Bruchus discoidens* Say." The antennal structure of the male and female were shown and discussed, special mention being made of the short spine at the apex of the last segment of the male antennæ. Other parts, which were shown and commented upon were the mandibles, two pairs of maxillæ, the peculiar emargination of the eye in which the base of the antenna rests, the legs and details of structure of coxa, trochanter and tarsus, inside view of segments of prothorax to show internal bracing chitinous rods, tergites of abdomen and sculpture of elytra.

Mr. William T. Davis stated that he had recently examined numerous

samples of dried fruits with a view to ascertaining what storage pests were present. A few living larvæ were found on figs, which were reared and proved to be the common moth *Plodia (Ephestia) interpunctella* known to live upon many kinds of stored foods. The most common beetle was *Carpophilus hemipterus* Linn. which was found in dried pears, figs and prunes. The next most common insect was *Silvanus surinamensis* Linn., which occurred in prunes and figs. There also came from the box of prunes one specimen each of *Carpophilus niger* Say, *Cryptophagus debilis* Lec. and a species assigned with much doubt to *Cryptophagus confertus* Casey. In the dried cherries *Cryptophagus acutangulus* Gyll. was collected and in the dried pears *Silvanus advena* Walth. The species of *Cryptophagus* were identified with the assistance of Mr. Charles W. Leng and the synopsis printed in the Society's Journal for June, 1900.

Dr. Osburn reported the capture of the common syrphid fly, *Eristalis tenax*, in the house on Sunday, March 13, which was an unusually early date. Society adjourned.

MEETING OF TUESDAY, APRIL 5, 1910.

Held at the American Museum of Natural History. President C. W. Leng in the chair with twenty-seven members and seven visitors present.

The minutes of the preceding meeting were read and approved.

The librarian read a letter from Prof. Wheeler which explained the delay in the appearance of the March number of the Journal.

Mr. Dow of the Outing Committee announced that field meetings would be arranged for Decoration Day and Fourth of July and that in the meantime frequent short trips would be taken mostly on Saturday afternoons and Sundays. All of those interested were asked to keep in touch with the committee.

The president referred to the death of Dr. Zabriskie in a few appropriate words.

On motion of Mr. Dow, the following resolution, a copy of which the secretary was directed to send to the family of Dr. Zabriskie, was incorporated in the minutes:

Resolved, that the New York Entomological Society has learned with sorrow of the death of Rev. J. L. Zabriskie, a former president of the Society and an active member in attendance at its last meeting, whose knowledge of the microscopic structure of insects added to the scientific interest of its meetings as his oratorical powers, preserved in his seventy-sixth year, added to the dignity of its proceedings, and that this expression of deep regret on the part of its members be spread upon its minutes and published in its proceedings.

Dr. E. B. Southwick added a few words of tribute to the memory of Dr. Zabriskie whom he had known since boyhood, and under whose influence he began the study of natural history.

Professor John B. Smith, by means of numerous stereopticon slides gave an interesting lecture on the subject of collectors and collections.

On motion of Mr. Groth a vote of thanks was tendered to Professor Smith for his interesting lecture.

Society adjourned.

MEETING OF TUESDAY, APRIL 19, 1910.

Held at the American Museum of Natural History at 8:15 p. m. President C. W. Leng in the chair with seventeen members and three visitors present.

Dr. Osburn reported the receipt of a number of photographs to add to the collection of entomologists and stated that the curator had provided a suitable place for storing and exhibiting future additions in this line.

Mr. Dow, of the Field Committee, reported that short collecting trips would be taken on Saturday afternoons and Sundays; and requested that those who desired to take these trips should keep in touch with the committee. The librarian, Mr. Schaeffer, asked for permission to buy four volumes, unbound, of the *Deutsche Entomologische Zeitung* to exchange with Mr. Angell for four bound volumes of the same publication.

Mr. Grossbeck read a paper on the subject of "Observations on the Behavior of the Digger Bee, *Emphor bombiformis* Cresson." Mr. Grossbeck stated that observations were made on a colony of these bees discovered at the edge of a cat-tail swamp near Arlington, N. J., August 26, 1909. The bees were busily engaged in digging burrows in the hard, shaly soil and provisioning them with masses of soft yellow pollen. Over an area three feet in diameter, one main colony of 70 bees had made 127 holes. Three other smaller colonies in the neighborhood were observed. He described their method of burrow-making as well as the burrows, their carrying and storing of pollen of the swamp rose mallow and the egg laying on the pollen balls. Specimens of the bees, plaster casts of their burrows and balls of pollen were exhibited.

Mr. Engelhardt mentioned finding a small burrowing bee at Ft. Lee, N. J., and in Utah, and Mr. Hallinan spoke of noticing similar bees in Panama.

Mr. Schaeffer exhibited a collection of *Mycetophagus* and made some remarks concerning their structural characteristics and their fungus-feeding habits.

Mr. Shoemaker exhibited some varieties of *Papilio philenor* which he had bred last summer, one showing abnormally shorter tails and another with more evidence of white markings on the wings.

Mr. Lutz exhibited and explained a cyanogen gas tank which he had constructed for killing insect pests in the insect collection.

Mr. Engelhardt exhibited some South American and West Indian butterflies and called attention to the close resemblance between *Danaïs erippus* and *D. plexippus* and spoke concerning protective mimicry among the butterflies.

Mr. Davis exhibited Professor Wheeler's new book on "Ants,"

Society adjourned.